

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. An identifier indicating the status of each claim is provided.

Listing of Claims

1-11. (Canceled)

12. (Currently Amended) An information processing method for reproducing AV stream data from a recording medium, comprising:

a first determining step of determining whether a first table is recorded on the recording medium, the first table recorded as a function of a first recording method;

a second determining step of determining whether a second table is recorded on the recording medium, the second table recorded as a function of a second recording method;

a reproducing step of reproducing ~~either~~ only one table; one of either the first table describing a relation of correspondence between a presentation time stamp and an address in said AV stream data of a corresponding access unit or reproducing the second table describing a relation of correspondence between an arrival time stamp derived from an arrival time point of a transport packet and an address in said AV stream data of a corresponding transport packet, from said recording medium based on the first determining step or the second determining step; and

a controlling step of controlling output of said AV stream data based on the reproduced table.

13. (Currently Amended) A computer readable medium adapted to store a computer program for an information processing apparatus recording AV stream data on a recording medium the computer program comprising:

a first determining step of determining whether a first table is recorded on the recording medium, the first table recorded as a function of a first recording method;

a second determining step of determining whether a second table is recorded on the recording medium, the second table recorded as a function of a second recording method;

a reproducing step of reproducing either only one table; one of either the first table describing a relation of correspondence between a presentation time stamp and an address in said AV stream data of a corresponding access unit or reproducing the second table describing a relation of correspondence between an arrival time stamp derived from an arrival time point of a transport packet and an address in said AV stream data of a corresponding transport packet, from said recording medium based on the first determining step or the second determining step; and

a controlling step of controlling output of said AV stream data based on the reproduced table.

14. (Cancelled)

15. (Currently Amended) An electronic medium encoded with data readable by a digital processor for controlling reproduction of said data, comprising:

a first identification module that identifies whether a first table is recorded on the electronic medium, the first table recorded as a function of a first recording method;

a second identification module that identifies whether a second table is recorded on the electronic medium, the second table recorded as a function of a second recording method;

wherein the first table describes a relation of correspondence between a presentation time stamp and an address in said AV stream data of a corresponding access unit; and

wherein the second table describes a relation of correspondence between an arrival time stamp derived from an arrival time point of a transport packet and an address in said AV stream data of a corresponding transport packet,

wherein the digital processor reads ~~either~~only one table; one of either the first table or the second table based on the first identification module or the second identification module.

16-27. (Canceled)

28. (Currently Amended) An information processing apparatus for recording AV stream data on a recording medium, comprising:

a controller for generating ~~either~~only one table; one of either a first table describing a relation of correspondence between a presentation time stamp and an address in said AV stream data of a corresponding access unit, or generating a second table describing a relation of correspondence between an arrival time stamp derived from an arrival time point of a transport packet and an address in said AV stream data of a corresponding transport packet; and

a recorder for recording one of the generated first table or the generated second table, on said recording medium with said AV stream data, based on the controller.

29. (Previously Presented) The information processing apparatus according to claim 28

wherein said first table is EP_map; and

wherein said second table is TU_map.

30. (Previously Presented) The information processing apparatus according to claim 28 wherein

said controller selects said second table in case of non-cognizant recording.

31. (Previously Presented) The information processing apparatus according to claim 28 wherein

said controller selects said first table in case of self encoding recording.

32. (Previously Presented) The information processing apparatus according to claim 28 wherein

said controller selects said first table in case of cognizant recording.

33. (Previously Presented) The information processing apparatus according to claim 28 wherein said controller generates the identification information indicating which of said first and second tables have been recorded; and

said recorder memorizing said identification information.

34. (Previously Presented) The information processing apparatus according to claim 33 wherein said controller manages control so that,

if said first table is recorded along with said AV stream data,

said reproduction specifying information expresses the time information of the reproduction domain of said AV stream data on the presentation time basis, and so that,

if said second table is recorded along with said AV stream data,

said reproduction specifying information expresses the time information of the reproduction domain of said AV stream data on the arrival time basis.

35. (Currently Amended) An information processing method for recording AV stream data on a recording medium, comprising:

a generating step of generating ~~either~~only one table; one of either a first table describing a relation of correspondence between a presentation time stamp and an address in said AV stream data of a corresponding access unit, or generating a second table describing a relation of correspondence between an arrival time stamp derived from an arrival time point of a transport packet and an address in said AV stream data of a corresponding transport packet; and

a recording step of recording one of a generated first table or a generated second table, on said recording medium with said AV stream data, based on the generating step.

36. (Currently Amended) A computer readable medium adapted to store a computer program for an information processing apparatus recording AV stream data on a recording medium the program, comprising:

a step of generating ~~either~~only one table; one of either a first table describing a relation of correspondence between a presentation time stamp and an address in said AV stream data of a corresponding access unit, or generating a second table describing a relation of correspondence between an arrival time stamp derived from an arrival time point of a transport packet and an address in said AV stream data of a corresponding transport packet; and

a recording step of recording one of a generated first table or a generated second table, on said recording medium with said AV stream data, based on the generating step.

37.(Currently Amended) A computer readable medium adapted to store a computer program for controlling an information processing apparatus recording AV stream data on a recording medium the program, comprising:

a step of generating ~~either~~only one table; one of either a first table describing a relation of correspondence between a presentation time stamp and an address in said AV stream data of a corresponding access unit, or generating a second table describing a relation of correspondence between an arrival time stamp derived from an arrival time point of a transport packet and an address in said AV stream data of a corresponding transport packet; and

a recording step of recording the generated first table or the generated second table, on said recording medium with said AV stream data,

wherein the generated first table or the generated second table is a function of a recording method.

38.(Currently Amended) An information processing apparatus for reproducing AV stream data from a recording medium, comprising:

a determining unit configured to determine whether a first table is recorded on the recording medium, the first table recorded as a function of a first recording method, or whether a second table is recorded on the recording medium, the second table recorded as a function of a second recording method;

a reproducing unit for reproducing ~~either~~only one table; one of either a first table describing a relation of correspondence between a presentation time stamp and an address in said AV stream data of a corresponding access unit or reproducing a second table describing a relation of correspondence between an arrival time stamp derived from an arrival time point of a transport packet and an address in said AV stream data of a corresponding transport packet, from said recording medium; and

a control unit for controlling output of said AV stream data based on the reproduced table.

39. (Currently Amended) An information processing apparatus for processing audio and/or picture information, comprising:

an input unit operable to input audio and/or picture information;

a controller operable for generating characteristic point information comprising:

(i) an entry point map describing a relationship between a presentation time stamp of an entry point and an address of a respective entry point, or

(ii) a time unit map describing a relationship between an arrival time stamp of a time unit and an address of a respective time unit,

wherein the characteristic point information comprising only one map; one of either ~~either~~ the entry point map or the time unit map is generated as a function of a type of said input audio and/or picture information; and

an output unit operable to output the generated characteristic point information.

40. (Previously Presented) The apparatus of claim 39, further including a recorder operable to record said audio and/or picture information and the characteristic point information on a recording medium.

41. (Previously Presented) The apparatus of claim 40 wherein said controller generates the entry point map when the input audio and/or picture information is converted to self-encode stream format.

42. (Currently Amended) An information processing apparatus for processing audio and/or picture information, comprising:

an input unit operable to input audio and/or picture information;

a controller adapted to generate only one map, ~~a map~~;

wherein the only one generated map is either

(i) an entry point map describing a relationship between a presentation time stamp of an entry point and an address of a respective entry point, or

(ii) a time unit map describing a relationship between an arrival time stamp of a time unit and an address of a respective time unit,

wherein the controller is adapted to generate only one map; one of either either the entry point map or the time unit map as a function of a recording method; and

a recorder operable to record the audio and/or picture information and the generated map on a recording medium.

43.(Previously Presented) The apparatus of claim 42, wherein said controller generates the time unit map when the entry point map cannot be prepared.

44. (Currently Amended) An information processing apparatus for recording input audio and/or picture information, comprising:

a controller operable to generate playlist information and map information corresponding to clip information,

wherein said clip information includes said audio and/or picture information,

wherein said playlist information includes at least one play item designated by an in-point and an out-point of the clip information,

wherein said map information including only one map; one of either~~includes either:~~

(i) an entry point map describing a relationship between a presentation time stamp of an entry point and an address of a respective entry point, or

(ii) a time unit map describing a relationship between an arrival time stamp of a time unit and an address of a respective time unit,

wherein generation of ~~either~~only one map; one of either the entry point map or the time unit map is a function of a recording method; and

a recorder operable to store the playlist information, the map information and the clip information on a recording medium.

45. (Previously Presented) The apparatus of claim 44, wherein said controller generates the map information for each point of the clip information.

46. (Previously Presented) The apparatus of claim 45, wherein said controller generates the map information of the same type for all clip information associated with one playlist.

47. (Currently Amended) A method for processing audio and/or picture information, comprising the steps of:

inputting audio and/or picture information;

generating characteristic point information comprised of:

(i) an entry point map describing a relationship between a presentation time stamp of an entry point and an address of a respective entry point, or

(ii) a time unit map describing a relationship between an arrival time stamp of a time unit and an address of a respective time unit,

wherein the generation of characteristic point information comprising ~~either~~only one map; one of either the entry point map or the time unit map is a function of a type of said input audio and/or picture information; and

outputting the characteristic point information comprising ~~either~~only one map; one of either the entry point map or the time unit map.

48. (Previously Presented) The method of claim 47, further including the step of recording said audio and/or picture information and the characteristic point information on a recording medium.

49. (Previously Presented) The method of claim 47 wherein the entry point map is generated when the input audio and/or picture information is converted to self-encode stream format.

50. (Currently Amended) A method for processing audio and/or picture information, comprising the steps of:

inputting audio and/or picture information;

generating ~~either~~only one map; one of either:

(i) an entry point map describing a relationship between a presentation time stamp of an entry point and an address of a respective entry point, or

(ii) a time unit map describing a relationship between an arrival time stamp of a time unit and an address of a respective time unit,

wherein generation of ~~either~~ the only one map; one of either the entry point map or the time unit map is a function of a recording method; and

recording the audio and/or picture information and the generated map on a recording medium.

51. (Previously Presented) The method of claim 50, wherein the time unit map is generated when the entry point map cannot be generated.

52. (Currently Amended) A method for recording input audio and/or picture information, comprising the steps of:

generating playlist information and map information corresponding to clip information,

wherein said clip information includes said audio and/or picture information,

wherein said playlist information includes at least one play item designated by an in-point and an out-point of the clip information,

wherein said map information includes ~~either~~ only one map; one of either:

(i) an entry point map describing a relationship between a presentation time stamp of an entry point and an address of a respective entry point, or

(ii) a time unit map describing a relationship between an arrival time stamp of a time unit and an address of a respective time unit,
wherein generation of ~~either the only one map; one of either~~ the entry point map or the time unit map is a function of a recording method; and
storing the playlist information, the map information and the clip information on a recording medium.

53. (Previously Presented) The method of claim 52, wherein the map information is generated for each point of the clip information.

54. (Previously Presented) The method of claim 53, wherein the map information of the same type is generated for all clip information associated with one playlist.

55. (Currently Amended) An apparatus for reproducing audio and/or picture information comprising:
a reproducing device for reproducing from a storage medium audio and/or picture information and ~~either~~only one map; one of either:

(i) an entry point map describing a relationship between a presentation time stamp of an entry point of said information and an address of a respective entry point, or

(ii) a time unit map describing a relationship between an arrival time stamp of a time unit of said information and an address of a respective time unit,

wherein ~~either the only one map; one of either~~ the entry point map or the time unit map is reproduced as a function of a type of said input audio and/or picture information;

a map recovery unit for recovering the entry point map or the time unit map from said storage medium; and

an audio and/or picture information reproducing unit for reproducing the audio and/or picture information associated with the recovered map.

56. (Previously Presented) The apparatus of claim 55, wherein the entry point map is stored on said storage medium when the audio and/or picture information is in a self-encode stream format.

57. (Currently Amended) An apparatus for reproducing audio and/or picture information, comprising:

a determining unit configured to determine map information recorded on a recording medium, the map information recorded as a function of a corresponding recording method;

a reproducing device for reproducing from a storage medium that stores playlist information and map information corresponding to a stream file,

said stream file including said audio and/or picture information,

wherein said playlist information including at least one PlayItem having IN time to indicate a presentation start time of PlayItem and OUT time to indicate a presentation end time of PlayItem ,

wherein said map information includes ~~either~~only one map; one of either:

(i) an entry point map describing a relationship between a presentation time stamp of an entry point of the stream file and an address of a respective entry point, or

(ii) a time unit map describing a relationship between an arrival time stamp of a time unit of the stream file and an address of a respective time unit;
a playlist recovery unit for recovering the playlist information;
a map recovery unit for recovering the map information; and
a reproducing unit for reproducing the stream file associated with the recovered map information.

58. (Previously Presented) The apparatus of claim 57 wherein respective map information is stored for each stream file.

59. (Previously Presented) The apparatus of claim 58 wherein map information of the same type is stored for each stream file associated with one playlist.

60. (Currently Amended) A method for reproducing audio and/or picture information comprising the steps of:
reproducing from a storage medium audio and/or picture information and either:

(i) an entry point map describing a relationship between a presentation time stamp of an entry point of said information and an address of a respective entry point, or

(ii) a time unit map describing a relationship between an arrival time stamp of a time unit of said information and an address of a respective time unit,

wherein ~~either~~ only one map; one of either the entry point map or the time unit map is reproduced as a function of a type of said input audio and/or picture information;

recovering ~~either~~only one map; one of either the reproduced entry point map or the reproduced time unit map from said storage medium; and
reproducing the audio and/or picture information associated with the recovered map.

61. (Previously Presented) The method of claim 60, wherein the entry point map is stored on said storage medium when the audio and/or picture information is in a self-encode stream format.

62. (Currently Amended) A method for reproducing audio and/or picture information, comprising the steps of:

reproducing from a storage medium storing playlist information and map information corresponding to a stream file ,

wherein said stream file includes said audio and/or picture information,

wherein said playlist information includes at least one PlayItem having IN time to indicate a presentation start time of PlayItem and OUT time to indicate a presentation end time of the PlayItem,

wherein said map information includes ~~either~~only one map; one of either:

(i) an entry point map describing a relationship between a presentation time stamp of an entry point of the stream file and an address of a respective entry point, or

(ii) a time unit map describing a relationship between an arrival time stamp of a time unit of the stream file and an address of a respective time unit,

wherein inclusion of ~~either~~only one map; one of either the entry point map or the time unit map is a function of a recording method;

recovering the playlist information;

recovering the map information; and

reproducing the stream file associated with the recovered map information.

63. (Previously Presented) The method of claim 62 wherein respective map information is stored for each stream file.

64. (Previously Presented) The method of claim 63 wherein map information of the same type is stored for each stream file associated with one playlist.

65. (Previously Presented) A record medium on which is recorded a computer program operable to control a processor to carry out the steps of claim 47.

66. (Previously Presented) A record medium on which is recorded a computer program operable to control a processor to carry out the steps of claim 50.

67. (Previously Presented) A record medium on which is recorded a computer program operable to control a processor to carry out the steps of claim 52.

68. (Previously Presented) A record medium on which is recorded a computer program operable to control a processor to carry out the steps of claim 60.

69. (Previously Presented) A record medium on which is recorded a computer program operable to control a processor to carry out the steps of claim 62.

70. (Currently Amended) A data providing medium encoded with data readable by a digital processor for controlling reproduction of said data, including:

a flag type; and

an entry point map describing a relationship between a presentation time stamp of an entry point of audio and/or picture information recorded thereon and an address of a respective entry point, or a time unit map describing a relationship between an arrival time stamp of a time unit of said information and an address of a respective time unit in accordance with a type of said input audio and/or picture information,

wherein the flag type indicates a type of recording process used to record ~~either~~only one map; one of either the entry point map or the time unit map.

71. (Currently Amended) A data providing medium encoded with data readable by a digital processor for controlling reproduction of said data, including:

playlist information and map information corresponding to a stream file, said stream file including audio and/or picture information, said playlist information including at least one PlayItem having IN time to indicate a presentation start time of PlayItem and OUT time to indicate a presentation end time of PlayItem, and

said map information being ~~either~~only one map; one of either:

(i) an entry point map describing a relationship between a presentation time stamp of an entry point and an address of a respective entry point, or

(ii) a time unit map describing a relationship between an arrival time stamp of a time unit of the stream file and an address of a respective time unit,

wherein inclusion of ~~either~~only one map; one of either the entry point map or the time unit map is a function of a recording method.

72. (Previously Presented) The apparatus for reproducing according to claim 57, comprising:

a reproducing device for reproducing the map file from the stream file.

73. (Previously Presented) The method for reproducing according to claim 62, comprising:

reproducing the map file from the stream file.

74. (Previously Presented) The data providing medium encoded with data readable by a digital processor for controlling reproduction of said data according to claim 71, comprising:

reproducing the map file from the stream file.

75. (Previously Presented) A method for recording data comprising:

accessing playlist data;

identifying clip information data from the playlist data;

determining a file type of the clip information;
generating a map from the file clip information if the clip information file
is an EP_map type; and
generating a clip audio/video stream from the EP_map.

76. (Currently Amended) The method as claimed in claim 75,
wherein the file type of the clip information is ~~either~~ only one map; one of
either an EP_map type or a TU_map type.